

CLAIMS

1. A floorboard (1) comprising connecting means
5 (6, 8, 14) which are integrated with the floorboard and adapted to connect the floorboard with an essentially identical floorboard (1'),

so that upper joint edges of said floorboard and said essentially identical floorboard in the connected
10 state define a vertical plane (VP),

said connecting means (6, 8, 14) being designed to connect said floorboard (1) with said essentially identical floorboard (1') in at least a horizontal direction (D2) perpendicular to said vertical plane (VP),

15 said connecting means comprising a locking strip (6) which projects from said vertical plane (VP) and carries a locking element (8) which is designed to cooperate, in said connected state, with a locking groove (14) of said essentially identical floorboard,

20 said locking strip (6) consisting of a separate part which is arranged on the floorboard (1), and

said locking strip (6) in said horizontal (D2) and vertical (D1) directions being mechanically fixed to the floorboard (1),

25 c h a r a c t e r i s e d in that

the locking strip (6) is mechanically fixed to the floorboard (1) by means of a joint which is operable by snapping-in and/or inward angling, and

the locking strip is designed for connecting the
30 floorboard with the essentially identical floorboard (1') by at least inward angling.

2. A floorboard as claimed in claim 1, c h a r -
a c t e r i s e d in that said connecting means (6, 8,
35 14) are designed to connect the floorboard with the essentially identical floorboard also by snapping-in in an essentially horizontal direction (D2).

3. A floorboard as claimed in claim 1, c h a r -
a c t e r i s e d in that said connecting means (6, 8,
14) are designed to disconnect said floorboard (1) from
said essentially identical floorboard (1') by an angular
5 motion in a direction opposite to said inward angling.

4. A floorboard as claimed in any one of claims 1-3,
c h a r a c t e r i s e d by a strip groove (36) which is
designed to receive said locking strip (6), and a tongue
10 groove (23) which, for connection in a vertical direction
(D1) perpendicular to a principal plane of the floorboard
(1), is designed to receive a tongue (22) arranged on
said essentially identical floorboard (1'), at least one
surface (60) of said tongue groove (23) consisting of
15 said locking strip (6).

5. A floorboard as claimed in claim 4, c h a r -
a c t e r i s e d by a locking surface (60) arranged on
said locking groove (36) and adapted to cooperate with a
20 locking surface (42) arranged on said locking strip (6).

6. A floorboard as claimed in claim 5, c h a r -
a c t e r i s e d in that said locking surface (60)
arranged on the locking groove is arranged on a lower lip
25 (21) which defines said strip groove (36), and that said
locking surface (42) arranged on the locking strip is
arranged on a lower surface of said locking strip (6).

7. A floorboard as claimed in claim 6, c h a r -
30 a c t e r i s e d in that the locking strip (6) forms an
extension of said lower lip (21).

8. A floorboard as claimed in claim 6 or 7,
c h a r a c t e r i s e d in that said lower lip (21)
35 projects from said vertical plane (VP).

9. A floorboard as claimed in any one of claims 4-8, characterised in that said tongue (22) consists of a separate part which is designed to engage, in said connected state, in said tongue groove (23) and in a corresponding groove in said essentially identical floorboard (1').

10. A floorboard as claimed in claim 9, characterised in that said tongue (22) is horizontally displaceable and/or elastically deformable.

11. A floorboard as claimed in any one of the preceding claims, characterised in that the locking strip (6) is detachable from said floorboard (1) by an angular motion in a direction opposite to said inward angling.

12. A floorboard as claimed in any one of the preceding claims, characterised in that the locking strip (6) essentially consists of a machined sheet-shaped material.

13. A floorboard as claimed in claim 12, characterised in that the locking strip (6) is formed by machining.

14. A floorboard as claimed in any one of the preceding claims, characterised in that the locking strip (6) essentially is made of wood-based material.

15. A floorboard as claimed in claim 14, characterised in that said wood-based material is selected from the group consisting of pure wood, particle board, plywood, HDF, MDF and compact laminate.

16. A floorboard as claimed in claim 14 or 15, characterised in that said wood-based material is impregnated and/or coated with a property-improving agent.

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17. A floorboard as claimed in any one of claims 14-16, characterised in that said wood-based material comprises a curing polymer material.

10 18. A floorboard as claimed in any one of claims 14-17, characterised in that said wood-based material is formable by machining.

15 19. A floorboard as claimed in any one of the preceding claims, characterised in that the floorboard (1) is quadrilateral and, along at least two mutually perpendicular edge portions (5a, 4a), has first (6', 8', 14') and second (6, 8, 14) sets of connecting means.

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20. A floorboard as claimed in any one of the preceding claims, characterised in that said first set of connecting means (6', 8', 14') are arranged on the short side (5a) of the floorboard and said second set of connecting means (6, 8, 14) are arranged on the long side (4a) of the floorboard, said first connecting means (6', 8', 14') differing from said second connecting means (6, 8, 14) in terms of material property or material composition.

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21. A floorboard as claimed in claim 20, characterised in that a locking strip (6') included in said first set of connecting means (6', 8', 14') differs in terms of material property or material composition from a locking strip (6) included in said second set of connecting means (6, 8, 14).

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22. A floorboard as claimed in claim 21, c h a r -
a c t e r i s e d in that the locking strip (6') included
in said first set of connecting means (6', 8' 14') has
higher strength than the locking strip (6) included in
5 said second set of connecting means (6, 8, 14).

23. A method for manufacturing a floorboard (1')
comprising connecting means (6, 8, 14) integrated with
the floorboard and adapted to connect the floorboard (1)
10 with an essentially identical floorboard (1'),

so that upper joint edges of said floorboard and
said essentially identical floorboard in the connected
state define a vertical plane (VP),

said connecting means (6, 8, 14) being designed to
15 connect said floorboard (1) with said essentially iden-
tical floorboard (1') in at least a horizontal direction
(D2) perpendicular to said vertical plane (VP),

said connecting means (6, 8, 14) comprising a lock-
ing strip (6) which projects from said vertical plane
20 (VP) and carries a locking element (8) which is designed
to cooperate, in said connected state, with a locking
groove (14) of said essentially identical floorboard
(1'), comprising the steps of

forming the locking strip (6) as a separate part
25 which is arranged on the floorboard (1), and

mechanically fixing the locking strip (6) to the
floorboard in both the horizontal and vertical direc-
tions,

c h a r a c t e r i s e d by
30 mechanically fixing the locking strip (6) to the
floorboard (1) by means of a joint which is operable
by snapping-in and/or inward angling, and

forming the locking strip (6) for connecting the
floorboard with the essentially identical floorboard by
35 at least inward angling.

24. A method as claimed in claim 23, characterised by forming the locking strip (6) by machining of a sheet-shaped material.

5 25. A method as claimed in claim 23 or 24, characterised by fixing the locking strip (6) to the floorboard (1) by snapping-in in an essentially horizontal (D2) direction.

10 26. A method as claimed in any one of claims 23-25, characterised by fixing the locking strip (6) to the floorboard (1) by inward angling.

15 27. A method as claimed in claim 25 or 26, characterised in that said locking strip (6) is included in a strip blank (15) comprising at least two essentially identical locking strips, the locking strip (6) being engaged with the floorboard (1), and said locking strip being separated from said strip blank (15).

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28. A locking strip (6) for connecting a floorboard (1) with an essentially identical floorboard (1')

25 so that upper joint edges of said floorboard (1) and said essentially identical floorboard (1') in the connected state define a vertical plane (VP),

 said locking strip (6) being designed to mechanically connect said floorboard (1) with said essentially identical floorboard (1') in at least a horizontal direction (D2) perpendicular to said vertical plane (VP),

30 the locking strip (6) being designed to be fixed to the floorboard (1) so as to project from said vertical plane (VP) and carry a locking element (8) which is designed to cooperate, in said connected state, with a locking groove (14) of said essentially identical
35 floorboard (1'), and

the locking strip (6) being designed to be mechanically fixed to the floorboard in both the horizontal (D2) and vertical (D1) directions,

characterised in that

5 the locking strip (6) is designed for mechanical fixing to the floorboard (1) by means of a joint, which is operable by snapping-in and/or inward angling, and

the locking strip (6) is designed for connecting the floorboard (1) with the essentially identical floorboard
10 (1') by at least inward angling.

29. A locking strip as claimed in claim 28,
characterised in that the locking strip (6)
essentially consists of wood-based material.

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30. A locking strip as claimed in claim 28 or 29,
characterised in that the locking strip (6)
has a cross-section which is asymmetrical about said vertical plane (VP).

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31. A method for manufacturing a locking strip (6)
for connecting a floorboard (1) with an essentially identical floorboard (1'),

so that upper joint edges of said floorboard (1) and
25 said essentially identical floorboard (1') in the connected state define a vertical plane (VP), comprising

forming the locking strip (6) for mechanical connection of said floorboard (1) with said essentially identical floorboard (1') in at least a horizontal direction
30 (D2) perpendicular to said vertical plane (VP),

forming the locking strip (6) for fixing to the floorboard (1) so that it projects from said vertical plane (VP) and carries a locking element (8) which is designed to cooperate, in said connected state, with a
35 locking groove (14) of said essentially identical floorboard (1'), and

forming the locking strip (6) for mechanical fixing to the floorboard in both the horizontal (D2) and vertical (D1) directions,

characterised by

5 forming the locking strip (6) for mechanical fixing to the floorboard by means of a joint, which is operable by snapping-in and/or inward angling, and

forming the locking strip (6) for connecting the floorboard (1) with the essentially identical floorboard
10 (1') by at least inward angling.

32. A method as claimed in claim 31, characterised by forming the locking strip (6) by machining a sheet-shaped material.
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33. A method as claimed in claim 31 or 32, characterised by forming the locking strip (6) by machining at least one side of the sheet-shaped material.
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34. A method as claimed in claim 32 or 33, characterised by forming a strip blank (15) consisting of at least two locking strips by said machining of said sheet-shaped material.
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35. A method as claimed in claim 34, characterised by forming a fracture line between said at least two locking strips in said machining of said strip blank (15), said fracture line being formed to facilitate
30 separation of one of said at least two locking strips.

36. A strip blank (15) consisting of at least two locking strips, which are each designed to connect a floorboard (1) with an essentially identical floorboard
35 (1'),

so that upper joint edges of said floorboard (1) and said essentially identical floorboard (1') in the connected state define a vertical plane (VP),

each of said locking strips (6) being designed to
5 mechanically connect said floorboard (1) with said essentially identical floorboard (1') in at least a horizontal direction (D2) perpendicular to said vertical plane (VP),

each of said locking strips (6) being designed to be
10 fixed to the floorboard (1) so that it projects from said vertical plane (VP) and carries a locking element (8) which is designed to cooperate, in said connected state, with a locking groove (14) of said essentially identical floorboard (1'), and

each of said locking strips (6) being designed to
15 be mechanically fixed to the floorboard (1) in both the horizontal (D2) and vertical (D1) directions,

c h a r a c t e r i s e d in that

each of said locking strips (6) is designed for
mechanical fixing to the floorboard by means of a joint,
20 which is operable by snapping-in and/or inward angling, and

each of said locking strip (6) is designed to connect the floorboard (1) with the essentially identical floorboard (1') by at least inward angling.

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37. A strip blank as claimed in claim 36, c h a r -
a c t e r i s e d in that the strip blank (15) essentially consists of wood-based material.

30 38. A strip blank as claimed in claim 36 or 37, c h a r a c t e r i s e d in that each of said locking strips has a cross-section which is asymmetrical about said vertical plane (VP).

35 39. A strip blank as claimed in any one of claims 36-38, c h a r a c t e r i s e d in that the strip blank (15) is made in one piece of a sheet-shaped material.

40. A strip blank as claimed in any one of claims 36-39, characterised in that the strip blank (15) is designed to facilitate separation of a locking strip (6) included in said strip blank.

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41. A strip blank as claimed in claim 40, characterised in that the strip blank (15) is provided with a fracture line to facilitate separation of a locking strip (6) included in said strip blank.

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42. A set of parts for making a floorboard (1) with connecting means (6, 8, 14) for connecting the floorboard (1) with an essentially identical floorboard (1'),

so that upper joint edges of said floorboard (1) and said essentially identical floorboard (1') in the connected state define a vertical plane (VP),

said connecting means (6, 8, 14) being designed to connect said floorboard (1) with said essentially identical floorboard (1') in at least a horizontal direction (D2) perpendicular to said vertical plane (VP),

said connecting means (6, 8, 14) comprising a locking strip (6) which projects from said vertical plane (VP) and carries a locking element (8) which is designed to cooperate, in said connected state, with a locking groove (14) of said essentially identical floorboard,

the locking strip (6) consisting of a separate part which is designed to be fixed to the floorboard (1), and

the locking strip (6) being designed to be mechanically fixed to the floorboard (1) both in the horizontal (D2) and vertical (D1) directions,

characterised in that

the locking strip (6) is designed for mechanical fixing to the floorboard (1) by means of a joint, which is operable by snapping-in and/or inward angling, and

the locking strip (6) is designed to connect the floorboard (1) with the essentially identical floorboard (1') by at least inward angling.

43. A set of parts as claimed in claim 42,
c h a r a c t e r i s e d in that the locking strip (6)
is included in a strip blank (15) comprising at least
5 two essentially identical locking strips.

44. A floorboard (1) comprising connecting means
(6, 8, 14) which are integrated with the floorboard and
adapted to connect the floorboard with an essentially
10 identical floorboard (1'),

so that upper joint edges of said floorboard and
said essentially identical floorboard in the connected
state define a vertical plane (VP),

said connecting means (6, 8, 14) being designed to
15 connect said floorboard (1) with said essentially iden-
tical floorboard (1') in at least a horizontal direction
(D2) perpendicular to said vertical plane (VP),

said connecting means comprising a locking strip (6)
which projects from said vertical plane (VP) and carries
20 a locking element (8) which is designed to cooperate, in
said connected state, with a locking groove (14) of said
essentially identical floorboard,

said locking strip (6) consisting of a separate part
which is arranged on the floorboard (1), and

25 said locking strip (6) being mechanically fixed to
the floorboard (1) in said vertical (D1) direction,

c h a r a c t e r i s e d in that

the locking strip (6) is inserted into a strip
groove (36) arranged in the edge portion of said
30 floorboard (1), whereby the locking strip is held in
place in said horizontal direction (D2) by frictional
forces or glue, and

the locking strip is designed for connecting the
floorboard with the essentially identical floorboard (1')
35 by at least inward angling.

45. The floorboard as claimed in claim 44,
c h a r a c t e r i s e d by a positioning surface (67)
facing the vertical plane VP.

5 46. A floorboard as claimed in claim 44 or 45,
c h a r a c t e r i s e d in that the locking strip (6)
essentially consists of a machined sheet-shaped material.

10 47. A floorboard as claimed in claim 46, c h a r -
a c t e r i s e d in that the locking strip (6) is formed
by machining.

15 48. A floorboard as claimed in any one of claims 44-
47, c h a r a c t e r i s e d in that the locking strip
(6) essentially is made of wood-based material.

20 49. A floorboard as claimed in claim 48, c h a r -
a c t e r i s e d in that said wood-based material is
selected from the group consisting of pure wood, particle
board, plywood, HDF, MDF and compact laminate.

25 50. A floorboard as claimed in claim 48 or 49,
c h a r a c t e r i s e d in that said wood-based material
is impregnated and/or coated with a property-improving
agent.

30 51. A floorboard as claimed in any one of claims
48-50, c h a r a c t e r i s e d in that said wood-based
material comprises a curing polymer material.

52. A floorboard as claimed in any one of claims
48-51, c h a r a c t e r i s e d in that said wood-based
material is formable by machining.